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EXAMINER

DIVECHA, KAMAL B

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/985,709	WILSON, RICHARD A.	
	Examiner	Art Unit	
	KAMAL B. DIVECHA	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/28/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-39, 44, 45, 53-58 are pending in this application.

Claims 40-43, 46-52 are cancelled.

Claims 53-58 are newly added claims.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed on March 26, 2007 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 20, 2007 has been entered.

Response to Arguments

Applicant's arguments filed in association with a Request for Continued Examination (RCE) with respect to claims 1-39, 44, 45, 53-58 have been considered but are moot in view of the new ground(s) of rejection, as necessitated by the substantial amendments as well as addition of new claims, as presented herein.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on March 28, 2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-39, 44, 45, 53-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 1 recites:

A method for managing a plurality of multifunction network devices on a network, each multifunction network device having a network interface for communication on the network, and each multifunction network device further having a plurality of hardware resources including a storage memory for storing a plurality of function modules which include function modules for controlling an image processing apparatus, a program memory for use by the function modules and a processor for executing each of the function modules, said method comprising the steps of:

- detecting a reconfiguration event for one of the plurality of multifunction network devices;
- sending a first reconfiguration command including a deletion command to delete at least one of software modules from an information processing apparatus on the network to one of the plurality of multifunction network devices corresponding to the reconfiguration event in case that the reconfiguration event is detected in the detecting step in response to the increase of demand for the hardware resources and sending a second reconfiguration command to retrieve a deleted software module by sending the deleted software module from the information processing apparatus to the multifunction network device via the network to one of the plurality of multifunction network devices corresponding to the reconfiguration event in case that the reconfiguration event is detected in the detecting step in response to the decrease of the demand for the hardware resources from the software module;
- first reconfiguring the multifunction network devices by deleting the software module in one of the plurality of multifunction network devices in accordance with the first reconfiguration command and sending the software module to the image processing apparatus via the network; and
- second reconfiguring one of the plurality of multifunction network devices by retrieving the deleted software module in the first reconfiguring step from the information processing apparatus on the network in accordance with the second reconfiguration command.

The functionality of “controlling an image processing apparatus” in claim above is unclear. The claim is directed towards the process of managing a plurality of multifunction network device. It is unclear whether the image processing apparatus is same as the multifunction network device or some other processing apparatus.

Art Unit: 2151

Secondly, the functionality of retrieving deleted software module from the information processing apparatus is unclear, because the preceding limitation recites deleting the software module and sending the software module to the image processing apparatus.

The claim also recites the limitation “the information processing apparatus”. There is insufficient antecedent basis for this limitation in the claim.

Independent claim 53 recites:

A method for controlling an information processing apparatus, the apparatus having a storage unit for storing a plurality of software modules and being capable of communicating with a plurality of multifunctional network devices, said method comprising the steps of:

detecting a reconfiguration event from at least one of the plurality of multifunction network devices based on a status of use of hardware resources in a plurality of image processing functions of the plurality of software modules in each of the plurality of multifunctional network devices;

first sending a deletion command for instructing the deletion of the software module to the multifunctional network device which sends the reconfiguration event, in case that the reconfiguration event detected by the detecting step is the event indicating a need to delete a specific software module in the multifunctional network device detected in response to the increase of demand for the hardware resources; and

second sending a requested software module stored in the storage unit to the multifunctional network device which sends the event, in case that the reconfiguration event detected by the detecting step is the event indicating to request a specific software module detected in response to the decrease of demand for the hardware resources.

The preamble recites controlling the information processing apparatus, whereas the body discloses or suggests controlling and/or managing a multifunction network device.

The claim is indefinite because the steps when executed do not control an information processing apparatus, it controls/manages a multifunction network device.

The claim also recites the limitation “the plurality of software modules”. There is insufficient antecedent basis for this limitation in the claim.

Claims 2-39, 44, 45, 54-58 are rejected for one or more reasons set forth above.

Applicant is advised to take appropriate actions.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 55-56 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 55 recites:

An apparatus for controlling an information processing apparatus, having a storage unit for storing a plurality of software modules and being capable of communicating with a plurality of multifunction network devices, comprising:
a detector...
instruction means...
sending means...

First, the claim fails to fall into any of the four enumerated categories of patentable subject matter recited above.

The claim does not appear to be a process, machine because it fails to disclose a positive recitation of a hardware element, manufacture or composition of matter.

The claim is directed towards an apparatus for performing the functions set forth in the claims, however there is no indication in the context of the claim of the fact that the apparatus is intended to cover a machine, and the functions encompassed by the detector means, instruction means and sending means can simply be implemented as a program listing and/or as software.

See MPEP § 2106 (IV) for more on compliance with 35 U.S.C. 101.

Claim 56 is rejected for the same reasons as set forth in claim 55.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8, 10-11, 13, 17, 22-32 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of Hirai (US 6,546,484 B2), and further in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1).

As per claim 1, Touboul explicitly discloses a method for managing a multifunction network device on a network, each multifunction network device having a network interface for communication on the network, and each multifunction network device further having a plurality of hardware resources including a storage memory for storing a plurality of function modules, a program memory for use by the function modules and a processor for executing each of the function modules (fig. 1: shows the network with plurality of multifunction devices; fig. 2: shows one embodiment of a multifunction network device; and col. 6 L1-17), said method comprising the steps of:

- detecting a reconfiguration event for one of the plurality of multifunction network devices (col. 2 L40-56, col. 4 L30-56 and col. 7 L40-49);
- sending a reconfiguration command to the one multifunction network device from an information processing apparatus on the network to one of the plurality of multifunction network devices corresponding to the reconfiguration event in case that the reconfiguration event is detected in the detecting step in response to the increase demand for the hardware resources (col.

Art Unit: 2151

10 L30-40, col. 10 L40-48 and col. 15 L35-39) (col. 5 L11-13, col. 8 L10 to col. 9 L30: too many files open logically conveys the increased usage of the hardware resources, col. 9 L40 to col. 10 L1) and sending a second reconfiguration command to download, i.e. retrieve a software module by sending the software module from the information processing apparatus to the multifunction network device via the network to one of the plurality of multifunction network devices corresponding to the reconfiguration event (col. 8 L10 to col. 9 L30);

reconfiguring one of the plurality of multifunction network devices by downloading the software module in the first reconfiguring step from the information processing apparatus on the network in accordance with the second reconfiguration command (col. 8 L10 to col. 9 L30: in this case downloading a file or software module).

However, Touboul does not disclose the process of sending a deletion command to delete at least one of the software modules and download command in order to download the software module in response to the increase/decrease of the demand for the hardware resources from the software modules and reconfiguring the multifunction device by deleting and downloading the software modules.

Hirai explicitly discloses the process of deleting and/or downloading the software modules based on the usage of the hardware resources from the software modules (fig. 8, fig. 12, col. 3 L36 to col. 4 L65, col. 7 L20-33: deleting unnecessary program files and/or downloading only the specific software module).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Touboul in view of Hirai in order to delete the software modules based on the usage of the hardware resources of the network device.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

However, Touboul in view of Hirai does not disclose the process wherein the multifunction device is an imaging processing apparatus (i.e. an apparatus comprising a printer, scanner and/or faxing functional modules, applicant specification defines a multifunction network as a combination of fax/scanner/printer, see pg. 1 lines 5-16).

NIWA, from the same field of endeavor explicitly discloses a multifunction network device, more specifically an imaging device (the combination of fax/scanner/printer) having plurality of hardware resources including a storage memory for storing a plurality of function modules (i.e. programs), which includes a function module for controlling a printer (i.e. a print software or driver) and a function module for controlling a scanner (i.e. s scanning software, program or driver), a program memory and a processor (fig. 1 item #1, 4, 5, 17, 18, 19, fig. 3 item #4) and the process of requesting to download a specific software, i.e. a printer software module, a scanning software module, based on the usage demand (pg. 1 [0006], pg. 3 [0048-0051], pg. 11 [0156-0157]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Hirai, and further in view of NIWA (the modification will be referred to as Touboul from herein on) in order to manage a network of plurality of multifunction network devices such as digital copiers, imaging devices, etc. (Also note that the modification would have been fully compatible because applicant specification

Art Unit: 2151

suggests that the applicant's invention can also be used to manage various other types of network devices, not just network printers, see specification, page 35).

One of ordinary skilled in the art would have been motivated because it would have offered increased flexibility in handling of problems that occur at the multifunction network device (such as printers, workstations, etc., Touboul, col. 1 L55-65). It would have further provided a means for identifying an event occurring with respect to a program executing on one of the devices, means for sending an alert to the management console, and means for storing plurality of triggers, wherein the triggers are adapted to cause an action to be taken within the network (Touboul, col. 2 L20-37).

As per claim 2, Touboul discloses the process wherein the reconfiguration event is a request for execution of one of the plurality of function modules by the one multifunction network device (col. 2 L20-45, col. 6 L54-61, col. 8 L43-52).

As per claim 3, Touboul discloses the process wherein the reconfiguration event is a trigger set by a configurator module executing in a computing device on the network (col. 2 L20-65, col. 4 L30-55, col. 5 L1-28, col. 10 L58 to col. 11 L20).

As per claim 4, Touboul discloses the process wherein the trigger is set in response to detection by the configurator module of an increased demand for use of the storage memory and of the program memory in the one multifunction network device (col. 8 L27 to col. 9 L67: too many files open indicates the increased demand for the memory).

As per claim 8, Touboul discloses the process wherein the trigger is set by the configuration module based on receipt of a request message by the configuration module from the one multifunction network device (col. 8 L44 to col. 9 L67, fig. 1 and col. 7 L40-49).

As per claim 10, Touboul discloses the process wherein the request message is passed in an SNMP message from the one multifunction network device to the configuration module (fig. 1, fig. 12 and col. 10 L19-29).

As per claim 11, Touboul discloses the process of monitoring an overall demand for execution of each of the plurality of functions by the plurality of multifunction network devices, and the trigger is set by the configuration module based on a detected increase in the overall demand for execution of one of the plurality of functions (col. 7 L40-50 and col. 8 L10 to col. 9 L67).

As per claim 13, Touboul discloses the process wherein the one multifunction network device is reconfigured in accordance with the reconfiguration command by deleting at least one of the function modules from the storage memory (col. 15 L25-39: please note that the process of updating inherently deletes a file).

As per claim 17, Touboul discloses the process wherein the reconfiguration command is selected from an addition command to add a designated function module to the storage memory and the program memory of the one multifunction network device (col. 8 L27 to col. 9 L67).

As per claim 22, Touboul discloses the process wherein the reconfiguration event is a trigger set by configuration module executing in a server on the network, and the trigger is based on an expiration of a predetermined time duration which was initiated at a last reconfiguration event for the one multifunction device (col. 7 L40 to col. 8 L64 and fig. 1 item #1, col. 8 L10-26).

As per claim 23, Touboul discloses the process wherein the reconfiguration event is a trigger set by a configuration module executing in a server on the network (fig. 1 item #1, fig. 5),

Art Unit: 2151

and the trigger is based on receipt of a request message by the configuration module from the one multifunction network device (col. 8 L44 to col. 9 L67 and col. 7 L40-49).

As per claim 24, Touboul discloses the process wherein the request message comprises a request by the one multifunction network device for the addition of at least one function module to the storage memory and to the program memory in the one multifunction network device (col. 7 L40-49 and col. 8 L44 to col. 9 L67: please note the process of installing and downloading is same as the process of adding the function modules).

As per claim 25, Touboul discloses the process wherein the reconfiguration event is a trigger set by configuration module executing in a server on the network (col. 14 L56-60 and fig. 1 item #1, 8), and the trigger is based on discovery by the configuration module of the one multifunction network device (col. 12 L22-35 and fig. 5).

As per claim 27, Touboul discloses the process wherein, in case that the reconfiguration command is an addition command to add a designated function module to the storage memory and the program memory of the one multifunction network device, the designated function module is downloaded to the one multifunction network device (col. 8 L10 to col. 9 L67 and col. 10 L40-49).

As per claim 28, Touboul discloses the process wherein the designated function module is downloaded to the one multifunction network device from a component repository module in response to an instruction from a configuration module (col. 10 L40-49 and col. 15 L9-20).

As per claim 29, Touboul discloses the process wherein the component repository module and the configuration module are executing on a same computing device on the network (fig. 5 item #74, 76, 78 and item #84, fig. 1 #1 and fig. 2, col. 15 L3-20).

As per claim 30, Touboul discloses a system wherein the component repository module and configuration module are executing on separate respective devices on the network (fig. 1 to fig. 3 and fig. 12).

As per claim 31, Touboul discloses the process wherein the component repository module executes in a server on the network (fig. 5 item #74, 76, 78 and col. 15 L10-20 and fig. 1).

As per claim 32, Touboul discloses the process wherein version identification (an identification) of the designated function module is provided in the instruction from the configuration module to the component repository module (col. 10 L40-49: the process inherently identifies the files or drivers using identifier and downloads and/or copies them).

As per claim 35, Touboul discloses the process wherein the designated function module is downloaded to the one multifunction network device from a component repository module in response to an instruction from the one multifunction network device (col. 10 L40-49, col. 9 L15-67 and col. 7 L40-49).

As per claim 36, Touboul discloses the process wherein a version identification of the designated function module is provided in the instruction from the one multifunction network device to the component repository module (col. 7 L40-49).

As per claim 38, Touboul discloses the process wherein the reconfiguration command is sent internally within the one multifunction network device which is reconfigured in accordance with the reconfiguration command (col. 5 L42-53).

However Touboul does not disclose the command of deleting all of the function modules except one designated function module from the storage and program memory.

Art Unit: 2151

Hirai discloses the process of program module management. Hirai further teaches the process of deleting all of the program modules (functional modules) except for the designated function module from the program memory of the network device (col. 4 L18-36, L46-65, col. 6 L23-49, col. 7 L20-33, col. 7 L56 to col. 8 L22).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess, and further in view of Hirai, in order to include a command to delete all of the function modules except for the designated function module from the storage memory and program memory of the multifunction network device, since Hirai teaches the process of deleting all of the program modules except for the program modules stationed permanently.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

As per claim 39, neither of the references disclose the process wherein the deleted function modules are sent from the multifunction network device to a component repository on the network, and wherein the deleted function modules are subsequently retrieved by multifunction network device from the component repository and added to the storage memory and to the program memory, But the process of deleting, sending, retrieving and adding function modules are well known and obvious in the relevant art. Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess and Hirai, in order to retrieve the deleted functional modules from the repository

Art Unit: 2151

and add to the storage memory and to the program memory. One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 38.

As per claims 14, 26, 53, 55 and 57, they does not teach or further define over the limitations in claims 1-4, 8, 10-11, 13, 17, 22-25, 27-32, 35-36 and 38-39. Therefore claims 14 and 26 are rejected for the same reasons as set forth in claims 1-4, 8, 10-11, 13, 17, 22-25, 27-32, 35-36 and 38-39.

4. Claims 5-7, 9, 12, 15-16, 18-21, 37 and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of Hirai (US 6,546,484 B2), further in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1), and further in view of Burgess et al., (hereinafter Burgess, U. S. Patent No. 5,696,701).

As per claim 5, Touboul does not disclose the process wherein the detection by the configuration module of an increased demand for use of the storage memory and of the program memory is based on resource information data which is passed from the one multifunction network device to the configuration module.

Burgess, from the same field of endeavor discloses the process of detecting high usage of the storage memory and program memory based on resource information data passed from a monitored computer (read as multifunction device) to the configurator module (col. 5 L1-51, col. 9 L55-65).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in

Art Unit: 2151

order to detect of an increased demand for use of the memory which is based on resource information data from the monitored computer.

One of ordinary skilled in the art would have been motivated because monitoring of this performance information would have allowed a network administrator to take action before the halt of the operating system of the monitored computer, i.e. halt of the computer system (Burgess, col. 8 L3-11).

As per claim 6, Touboul does not disclose the process wherein the resource information data includes a current utilized amount of the storage memory and a current utilized amount of the program memory of the one multifunction network device.

Burgess discloses the process wherein the resource information data includes a current utilized amount of the storage memory and a current amount of the program memory of the monitored computer (col. 7 L4-67).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to pass the utilized amount of the memory.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 5.

As per claim 7, Touboul discloses the process wherein the resource information data is passed in an SNMP message from the one multifunction network device to the configuration module (fig. 1, fig. 9 item #174 and col. 10 L19-29, col. 2 L30-56).

As per claim 9, Touboul does not disclose the process wherein the request message comprises a request by multifunction network device for an increased useable capacity of the storage memory and of the program memory in the multifunction device.

Burgess discloses the process of sending a message by the monitored computer for an increased useable capacity of the storage device and of the program memory in the monitored computer (col. 6 L40 to col. 7 L67 and col. 8 L56-65).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to send a request message for an increased useable capacity of the storage memory and of the program memory in the computer.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for accommodating the operating system demands (Burgess, col. 7 L37-47).

As per claim 12, Touboul does not explicitly disclose the process wherein the configuration module monitors the overall demand for execution of each of the plurality of functions by monitoring a plurality of function request messages which are sent to the plurality of multifunction devices.

Burgess discloses the process of monitoring the percentage of time that a processor is busy executing a request, the rate at which the operating system switches between threads and the number of times that the operating system is not able to assign a work item to service a request (col. 7 L13-65). That Burgess monitors the plurality of requests and generates the alerts based on the monitoring process.

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess in order to monitor plurality of function request messages.

One of ordinary skilled in the art would have been motivated because of the same reasons as asset forth in claims 5 and 9.

As per claim 15, Touboul does not disclose the process wherein the multifunction network device is reconfigured in accordance by allocating a designated amount of program memory for use by the function modules.

Burgess, from the same field of endeavor, discloses the process of increasing the program memory for use by the program modules (i.e. it increases by reallocating memory from somewhere to the device, col. 7 L37-47).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul, in order to reallocate the program memory for use by the network device.

One of ordinary skilled in the art would have been motivated because of the same reasons as asset forth in claims 5 and 9.

As per claim 16, Touboul does not explicitly disclose the process wherein multifunction network device is reconfigured in accordance with the reconfiguration command by instructing an operating system in the one multifunction network device to respond only to a function request message which requests execution of a designated function module.

Art Unit: 2151

Burgess discloses the process of instructing an operating system to provide more work items to service requests when operating system is not able to assign a work item (col. 7 L60 to col. 8 L2).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess to instruct operating system to respond only to a designated function request, since Burgess discloses the process of instructing the operating system to perform a task.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 5 and 9.

As per claim 44, Touboul does not explicitly disclose the process wherein one multifunction network device is reconfigured in accordance with the reconfiguration command by prohibiting the use of program memory for at least one the function module.

Burgess discloses the process wherein a monitored computer (a multifunction network device) is instructed to cease executing extraneous processes (read as prohibiting the use of program memory, col. 7 L49-60).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to prohibit the use of program memory.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 5 and 9.

As per claim 45, Touboul does not explicitly disclose the process wherein one multifunction network device is reconfigured in accordance with the reconfiguration command

Art Unit: 2151

by prohibiting the use of program memory for all of the function modules except a designated function module.

Burgess discloses the process wherein a monitored computer (a multifunction network device) is instructed to cease executing extraneous processes (read as prohibiting the use of program memory, col. 7 L49-60).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess in order to prohibit the use of program memory for all of the function modules except a designated function module.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 44.

As per claims 18-21, 37 and 41-43, they do not teach or further define over the limitations in claims 5-7, 9, 12, 15-16 and 44-45. Therefore claims 18-21, 37 and 41-43 are rejected for the same reasons as set forth in claims 5-7, 9, 12, 15-16 and 44-45.

5. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of Hirai (US 6,546,484 B2), further in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1), and further in view of Chiles et al (hereinafter Chiles, U. S. Patent No. 6,167,567).

As per claim 33, Touboul's teachings as set forth above still applied. Touboul further discloses a configuration profile that includes attributes such as type of machine, processor type, memory size, etc., associated with a workstation (i.e. preset profile associated with a multifunction device).

Art Unit: 2151

However Touboul does not disclose the process wherein the version identification is determined in accordance with a preset profile corresponding to the one multifunction device.

Chiles discloses a system for automatically updating software on a computer in a networked client-server environment (see summary) and Chiles further discloses the process of identifying the updates based on the version numbers of the software (col. 2 L42-56, col. 5 L44-50).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Chiles, in order to include a version numbers of software associated with multifunction device in a configuration file or profile.

One of ordinary skilled in the art would have been motivated because it would have identified the software. It would have also enabled a determination process that would have determined whether the software and/or functional module needs an update or not (Chiles, col. 4 L43-47).

As per claim 34, Touboul discloses the process wherein preset profile corresponding to one network device contains information regarding allowed function modules that can be downloaded to the one multifunction device (col. 15 L3-39).

However Touboul does not disclose the process wherein the preset profiles includes version identification for each of the allowed function modules.

Chiles discloses a system for automatically updating software on a computer in a networked client-server environment (see summary) and Chiles further discloses the process of identifying the updates based on the version numbers of the software (col. 2 L42-56, col. 5 L44-50).

Art Unit: 2151

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Chiles, in order to include a version numbers of software associated with multifunction device in a configuration file or profile.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 33.

6. Claims 54, 56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over NIWA et al. (hereinafter NIWA, US 2003/0037098 A1) in view of Obata (US 2001/0025312 A1), and further in view of Hirai (US 6,546,484 B2).

As per claim 54, NIWA explicitly discloses a method for managing/controlling a multifunction network device on a network, each multifunction network device having a network interface for communication on the network, and each multifunction network device further having a plurality of hardware resources including a storage memory for storing a plurality of function modules, a program memory for use by the software modules and a processor for executing each of the function modules (fig. 1: an imaging device), said method comprising the steps of:

first reconfiguring the multifunction network devices by downloading, i.e. retrieving the software module from the information processing apparatus, i.e. host computer on the network (i.e. retrieving the requested program file, (fig. 1 item #1, 4, 5, 17, 18, 19, fig. 3 item #4) and the process of requesting to download a specific software, i.e. a printer software module, a scanning software module, based on the usage demand (pg. 1 [0006], pg. 3 [0048-0051], pg. 11 [0156-0157])).

However, NIWA does not disclose the process of determining whether the hardware resources need to be reallocated based on a status of the hardware resources by the plurality of software modules and the process of deleting at least one software modules and sending the software module so as to secure hard resources in the multifunction network devices to an information processing apparatus on the network when the determining step determines that the hardware resources need to be reallocated.

Obata explicitly discloses the process of monitoring whether the hardware resources need to be allocated and/or reallocated based on the status of use of the hardware resources by the plurality of software modules (fig. 2-4, fig. 6, fig. 9, pg. 1 [0005-0010]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify NIWA in view of Obata in order determine whether the hardware resources need to be reallocated.

One of ordinary skill in the art would have been motivated because it would have enabled automatically fluctuating a processing capability of the system (Obata, pg. 1 [0009]).

However, NIWA in view of Obata does not disclose the process of the process of deleting at least one software modules and sending the software module so as to secure hard resources in the multifunction network devices to an information processing apparatus on the network when the determining step determines that the hardware resources need to be reallocated.

Hirai explicitly discloses the process of deleting and/or downloading the software modules based on the usage of the hardware resources from the software modules (fig. 8, fig. 12, col. 3 L36 to col. 4 L65, col. 7 L20-33: deleting unnecessary program files and/or downloading

Art Unit: 2151

only the specific software module, note that deleting the file involves removing the software files and storing them into temporary storage).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify NIWA in view of Obata and further in view Hirai in order to delete the software modules based on the usage of the hardware resources of the network device and in response to determining whether the hardware resources need to be reallocated.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

As per claims 56 and 58, they do not teach or further define over the limitations in claim 54. Therefore claims 56 and 58 are rejected for the same reasons as set forth in claim 54.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Sato, US 2003/0033395 A1: Peripheral Device with a centralized management server and system.
- b. Schacht et al., US 2003/0051011 A1: System and Method for installing printer driver software.

Conclusion

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Touboul discloses the process and apparatus for monitoring and managing the network devices and/or resource utilization, however Touboul's system is limited to management of the multifunction network devices such as workstations.

Hirai explicitly discloses deleting and loading the software modules in response to the memory usage of a network device.

Art Unit: 2151

Logically, the combination of Touboul and Hirai discloses the invention claimed in the instant application, however the combination is limited to management of the network devices such as workstations.

But, applying these teachings to a networked system comprising plurality of multifunction network devices, i.e. imaging devices, is considered obvious because network of plurality of MFPS or imaging devices are well known in the art, as evident by NIWA.

Therefore the motivation is clear in its context such as it would have offered increased flexibility in handling of problems that occur at the multifunction network device due to various reasons (such as printers, workstations, etc., Touboul, col. 1 L55-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2151

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamal Divecha/

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Art Unit 2151
May 30, 2007.



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